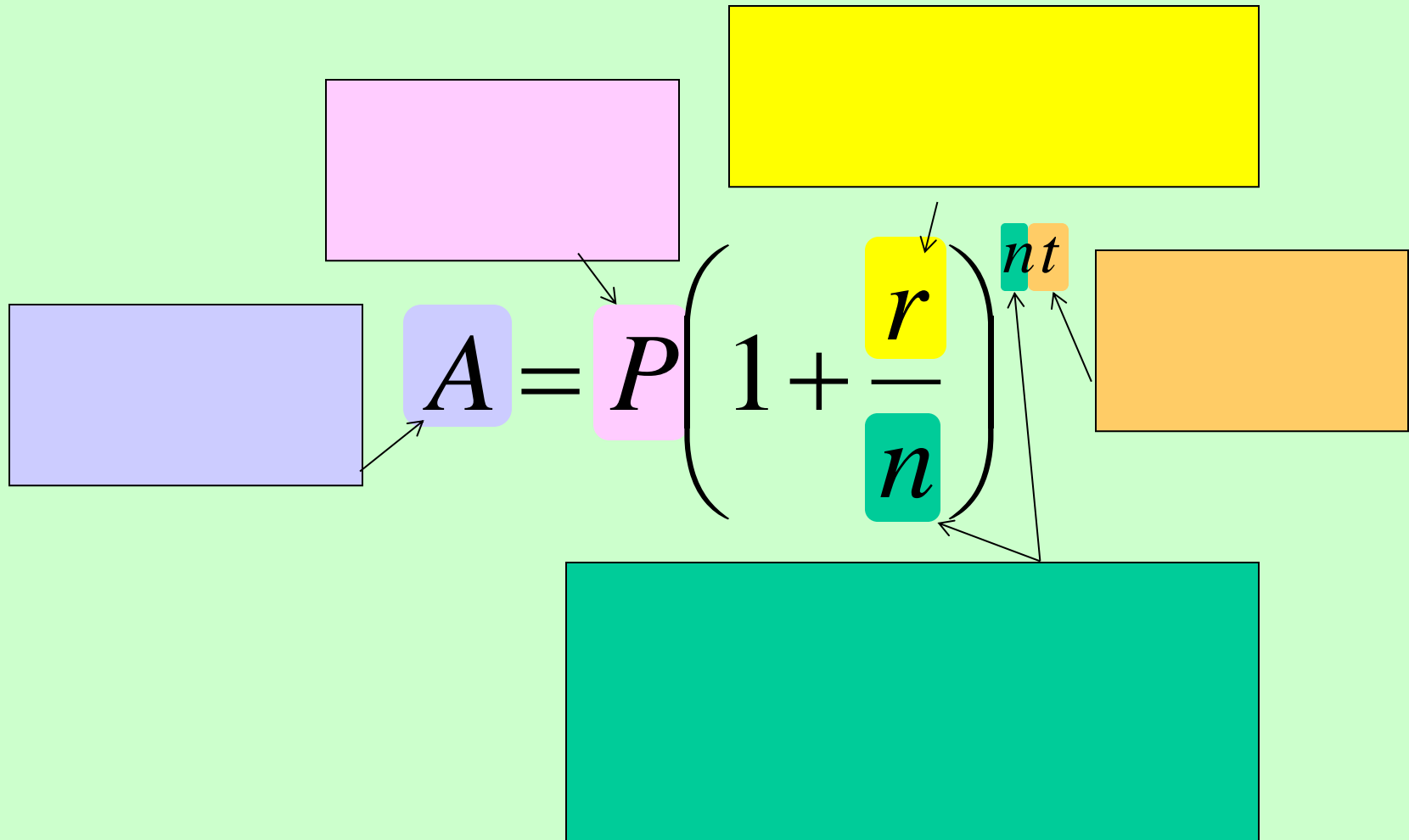


COMPOUND INTEREST



Objective: You will be able to apply the formula for compound interest to a given problem or word problem.

COMPOUND INTEREST FORMULA



COMPOUND INTEREST FORMULA

**Principal
(amount
at start)**

**annual interest
rate
(as a decimal)**

**amount at
the end**

$$A = P \left(1 + \frac{r}{n} \right)^{nt}$$

**time
(in years)**

**number of times per
year that interest is
compounded**

Compound Interest

Period	Interest Credited	Times Credited per year	Rate per compounding period
Annual			
Semiannual			
Quarterly			
Monthly			
Daily			

Compound Interest

Period	Interest Credited	Times Credited per year	Rate per compounding period
Annual	year	1	R
Semiannual	6 months	2	$\frac{R}{2}$
Quarterly	quarter	4	$\frac{R}{4}$
Monthly	month	12	$\frac{R}{12}$
Daily	day	365	$\frac{R}{365}$

Example

Suppose you invest \$32,000 into a certificate of deposit that has an annual interest rate of 5.2% compounded annually for 3 years

$$A = 32,000 \left(1 + \frac{.052}{1} \right)^{1(3)}$$

$$A = \$37,256.08$$

Find the amount that results from \$500 invested at 8% compounded quarterly after a period of 2 years.

$$A = 500 \left(1 + \frac{.08}{4} \right)^{4(2)}$$

$$A = \$585.83$$